REMARKS

Applicants have carefully reviewed the Office Action ("Action") dated August 31, 2009. Claims 54-86 are pending. Claims 54-64 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Claims 54-86 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claims 54-86 stand rejected under 35 U.S.C. §103, as being unpatentable over US Patent No. 5,944,840 to Lever et al. ("Lever") in view of US Patent No. 4,263,647 to Merrell et al. ("Merrell").

Claims 54-56, 59, 62, 65-67, 70, 73, 76-78, 81, and 84 are currently amended to improve form, and to overcome the §101 and §112 rejections. Claims 1-53 were previously canceled. Claims 57-58, 60-61, 63-64, 68-69, 71-72, 74-75, 79-80, 82-83, and 85-86 were previously presented. The amendments are fully supported by the originally-filed Specification. Therefore, no new matter has been added.

Response to §101 and §112 Rejections

Applicants amend claims 54-56, 59, and 62 to clarify elements, including a processor, a memory, and an interface circuit of a system on which the limitations in the claims may be performed.

Applicants also amend claims 54-56, 59, 62, 65-67, 70, 73, 76-78, 81, and 84 to address Action's concerns, including providing antecedent basis. In particular, Applicants have clarified how a time value is obtained, and further clarified the time value collection and calculation recited in these claims.

According to MPEP §2111.01(IV), "an applicant is entitled to be his or her own lexicographer" and "the meaning of a particular claim term may be defined by implication, that is, according to the usage of the term in the context in the specification." Thus, Applicants respectfully submit that the Action's rejection of "updating a state variable" in claims 55, 66, and 77, "interacting

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with a physical environment" in claims 56, 67, and 78, and "updating a state of said scheduling system" in claims 62, 73, and 84, should be withdrawn as these terms are described in the Specification.

Based on at least the reasons set forth above, Applicants respectfully request withdrawal of the §101 rejections of claims 54-64, and §112 rejections of claims 54-86.

Response to §103 Rejections

Amended claim 54 recites a method for dynamic slip control in a scheduling system. The method includes the steps of retrieving a first clock time when the first interrupt occurred, computing a first time interval between the first clock time and the scheduled time for a second interrupt, retrieving a second clock time when computation of the first interval is complete, computing a second time interval between the first clock time and the second clock time, computing a third interval by subtracting the second time interval from the first time interval, and scheduling the second interrupt to arrive at or after expiration of the third time interval.

Lever and Merrell, taken alone or in combination, fail to describe computing a second time interval between the first clock time and the scheduled time for a second interrupt. Lever discloses an apparatus and a method for monitoring the time for a computer to process a process associated with an interrupt asserted on a system bus. The Action concedes that Lever fails to disclose the claimed subject matter. However, the Action asserts that Merrell cures these deficiencies in Merrell's Figure 12, col.18 lines 52-64, and col. 19 lines 16-41. Applicants respectfully disagree. Merrell discloses a fault monitoring circuit for a numerical control system to sense a malfunction in a system processor and notify the rest of the processors in the control system. The cited Figure and passages in Merrell disclose a scheduler invoked at least once every 1.6ms in response to an interrupt to a microprocessor. Merrell's scheduler allocates time slices to each process on the microprocessor. When a process completes or uses up its allocated time slices, Merrell's scheduler is called to invoke the next process in queue. Thus, Merrell's scheduler allocates time slices in blocks of 1.6ms, which are fixed and known. The time slice (or interval) until a next interrupt

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serviced by the scheduler is known to be 1.6ms and is not computed. However, the time interval

between the first clock time and the scheduled time for a second interrupt, as recited in amended

claim 54, is <u>not fixed, is unknown a priori, and is computed</u>.

Furthermore, Applicants' claimed subject matter, as recited in claims 54, 65, and 76, is a

method, computer program, and system for dynamic slip control in a processor task scheduling

system. Reducing slip is necessary for event scheduling in real-time systems, such as aircraft

control systems. As discussed above, Lever is concerned with monitoring time taken to process an

interrupt, while Merrell discloses a scheduler that allocates time to processes fixed time slices.

Neither reference or their combination discloses Applicants' claimed subject matter whereby slip in

a scheduling system is reduced taking into account the variation of actual interrupt time from it

scheduled time, and any related computation time.

Therefore, Lever nor Merrell, taken alone or in combination, fail to describe, teach, or

suggest the claimed subject matter of claim 54. Amended claims 65 and 76 include limitations

similar to those in amended claim 54 discussed above. Therefore, for at least the same reasons,

Lever nor Merrell, taken alone or in combination, fail to describe, teach, or suggest the claimed

subject matter of claim 65 and 76.

For at least these reasons, Applicants request withdrawal of the §103 rejections of claims 54,

65, and 76. Since claims 55-64, 66-75, and 77-86 depend from and add further limitations to claims

54, 65, and 76, Applicants request withdrawal of the §103 rejections of theses claims as well.

CONCLUSION

In view of the above amendments and remarks, Applicants believe the pending application is in condition for allowance. Applicants hereby request a telephonic interview with the Examiner prior to issuing an Office Action if they believe the case not to be in condition for allowance.

Applicants believe no fee is due with this response other than those indicated on the attached Transmittal. However, if a fee is due, please charge our Deposit Account No. 18-1945, from which the Undersigned is authorized to draw.

Dated: February 23, 2010   Respectfully submitted,

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